

What is claimed is:

1. A mobile communication system including a radio base station apparatus for determining uplink reception synchronization by using a pilot symbol of DPCCH (Dedicated Physical Control Channel) from a mobile station, the system comprising:
 - means for re-encoding a TFCI (Transport Format Combination Indicator) value that has been once decoded and comparing the re-encoded TFCI value with a TFCI symbol received from the mobile station; and
 - determination means for using the number of TFCI error bits resulting from the comparison to determine uplink reception synchronization.
2. The mobile communication system according to claim 1 further comprising means for computing a characteristic indicator value from a decoding characteristic resulting from Hadamard transform used in decoding the TFCI value,
 - wherein the characteristic indicator value is used to determine uplink reception synchronization.
3. The mobile communication system according to claim 2 further comprising control means for determining whether or not to use a reception SIR (Signal to Interference power Ratio) value computed with the pilot symbol, the number of pilot error bits of the pilot symbol, the number of the TFCI error bits, and the characteristic indicator value for the determination of uplink reception synchronization, depending on a radio environment.

4. A radio base station apparatus for determining uplink reception synchronization by using a pilot symbol of DPCCH (Dedicated Physical Control Channel) from a mobile station, the apparatus comprising:

5 means for re-encoding a TFCI (Transport Format Combination Indicator) value that has been once decoded and comparing the re-encoded TFCI value with a TFCI symbol received from the mobile station; and

determination means for using the number of TFCI error bits
10 resulting from the comparison to determine uplink reception synchronization.

5. The radio base station apparatus according to claim 4 further comprising means for computing a characteristic indicator value from a decoding characteristic resulting from Hadamard transform
15 used in decoding the TFCI value,

wherein the characteristic indicator value is used to determine uplink reception synchronization.

6. The radio base station apparatus according to claim 5 further comprising control means for determining whether or not to use
20 a reception SIR (Signal to Interference power Ratio) value computed with the pilot symbol, the number of pilot error bits of the pilot symbol, the number of the TFCI error bits, and the characteristic indicator value for the determination of uplink reception synchronization, depending on a radio environment.

7. A method for determining uplink reception synchronization in a mobile communication system including a radio base station apparatus for determining uplink reception synchronization by using a pilot symbol of DPCCH (Dedicated Physical Control Channel) from a mobile station, the method comprising the steps, in the radio base station apparatus, of:

re-encoding a TFCI (Transport Format Combination Indicator) value that has been once decoded and comparing the re-encoded TFCI value with a TFCI symbol received from the mobile station;
10 and

using the number of TFCI error bits resulting from the comparison to determine uplink reception synchronization.

8. The method for determining uplink reception synchronization according to claim 7, further comprising the step of computing
15 a characteristic indicator value from a decoding characteristic resulting from Hadamard transform used in decoding the TFCI value,

wherein the characteristic indicator value is used to determine uplink reception synchronization.

9. The method for determining uplink reception synchronization according to claim 8, further comprising the step of determining
20 whether or not to use a reception SIR (Signal to Interference power Ratio) value computed with the pilot symbol, the number of pilot error bits of the pilot symbol, the number of the TFCI error bits, and the characteristic indicator value for the
25 determination of uplink reception synchronization, depending on a radio environment.